REMARKS

This is in response to the Office Action mailed on March 9, 2005 in which claims 1-22 were pending, claims 5-22 were withdrawn and 1-4 were rejected. With this Amendment, claim 1 is amended. Claims 1-4 are presented for reconsideration and allowance, along with all claims of species to which claims 1-4 are generic.

In the Office Action, claims 1-4 were rejected under 35 U.S.C. §102(b) as being anticipated by Flubacker (U.S. Patent No. 2,775,679). In support of the rejection, the Office Action stated that Flubacker discloses a cylindrical probe that has a surface roughness that improves ice detection, and that the probe has a flat probe tip.

While Flubacker does disclose a flat probe tip, this is not a surface roughness feature that improves ice detection. Flubacker discloses an ice detecting probe in a pneumatic pressure type ice detection system. As taught by Flubacker at column 3, lines 47-53, if ice forms on leading edge 20 of probe 2 (shown in FIG. 2), and if the ice formation covers apertures 21 on this leading edge 20, the impact pressure ceases or fails, and a resulting pressure equalization is used to detect ice formation. However, there is no teaching or suggestion that Flubacker has a surface roughness features that improves ice detection, or that a flat tipped probe in a pneumatic pressure type ice detector as disclosed by Flubacker will improve ice detection. Since the flat probe tip shown in Flubacker is spaced apart from apertures 21 used for pressure analysis, there is no teaching or suggestion that it has any ice detection improving effect.

In contrast, the present invention, as amended claim 1 recites, is directed to a vibrating type ice detector. To reflect the different type of ice detector to which claim 1 is directed, in addition to reciting "a longitudinally extending probe protruding into an airflow," claim 1 now also recites "excitation and sensing circuitry which vibrates the longitudinally extending probe and detects ice accretion by detecting changes in a natural frequency of a vibration of the probe." These claim limitations are not taught in Flubacker.

To further differentiate claim 1 from the teachings of Flubacker, the surface roughness feature element of claim 1 is amended so that it now recites "the surface roughness feature improving ice detection by lowering a static temperature of the probe at the surface roughness

feature to accrete ice on the probe to thereby change the natural frequency of vibration of the probe." The surface roughness feature in the vibrating type ice detector of the present invention, which as recited in claim 4 can be a flat probe tip at the distal end of the probe providing an ice accreting edge, does improve ice detection in this manner. This additional claim limitation is also not taught by Flubacker. These claim amendments are fully supported by the disclosure and drawings of the application as filed.

Since there is no teaching or suggestion that the flat probe tip disclosed in the Flubacker pneumatic pressure type ice detector is a surface roughness feature which serves to improve ice detection, and further since Flubacker does not teach the vibrating type ice detector limitations recited in amended claim 1, it is respectfully submitted that claim 1 is patentable over the cited art. It is therefore respectfully requested that the rejection of claims 1-4 be withdrawn, and that claims 1-4, as well as all dependent claims for which claims 1-4 are generic be allowed.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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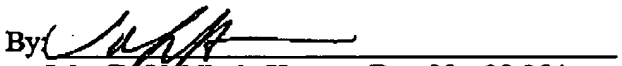
By 

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